CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- Before this Amendment: Claims 1-35.

- After this Amendment: Claims 1-35

Non-Elected, Canceled, or Withdrawn claims: none

Amended claims: 1-7, 10-16, and 19-35

New claims: none

Claims:

1. (Currently Amended) A data mining method comprising:

accessing one or more <u>of a plurality of</u> data sets, each data set storing data organized as cases, each case comprising:

a key value<u>, wherein the key value uniquely identifies the corresponding case</u>;

a value in one or more <u>of a plurality of</u> variables<u>, whereby the values represent characteristics of a subject of the case and each type of the plurality of variables corresponds to pre-determined data types</u>;

retrieving data from a data set <u>of the plurality of data sets</u>;

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performing operations on a chosen one or more of a plurality of mining structures, wherein the operations comprise:

create, wherein the create operation sets up mining structures by creating one or more mining structures using data retrieved from the data set, wherein each mining structure describes how the data will be modeled for data mining, and wherein the creating comprises:

defining one or more of a plurality of mining structure variables as the variables from the data structure that will be used in the mining structure; and

defining one or more of a plurality of acts of processing to be performed on the retrieved data, wherein the one or more acts of processing may be performed on a subset of the retrieved data;

process, wherein the process operation performs initial processing on the retrieved data from the data set for mining model creation by performing processing on the retrieved data, wherein processing occurs only on the subset of data determined necessary per the definitions in the mining structure;

clear, wherein the clear operation removes data from a processed mining structure;

drop, wherein the drop operation deletes each chosen mining structure;

update, wherein the update operation causes the mining structure to be reprocessed from the data set;

query, wherein the query operation returns the requested values from the mining structure;

storing results of <u>operations performed on</u> ~~processing~~ the data <u>in the mining</u> <u>structure</u>;

ascertaining the existence of one or more mining structures available for mining model creation;<u>and</u>

<u>based on the mining structures,</u> creating ~~one or more~~ <u>a plurality of</u> mining models, <u>wherein each mining model is predictive of chosen characteristics based on the values</u> <u>obtained from mining structure variables, and the plurality of mining models includes a</u> <u>first mining model created from a first mining structure of the plurality of mining</u> <u>structures, and a second mining model, different from the first mining model, created</u> <u>from the first</u> ~~wherein one of the one or more mining models created from a mining structure is not equal to another of the one or more mining models created from the same~~ mining structure;

providing results of the creation of the one or more mining models.

2. (Currently Amended) The method of claim 1, wherein one or more <u>of the</u> <u>plurality of</u> mining structures serve as first class objects in a database.

3. (Currently Amended) The method of claim 1 wherein one ~~of the one or more~~ mining structure[[s]] created from a data set is not equal to another ~~of the one or more~~ mining structure[[s]] created from the same data set.

4. (Currently Amended) The method of claim 3, wherein the cases represented by the mining structure variables stored in one ~~of the one or more~~ mining structure[[s]] created from a data set are not the same as the cases represented by the mining structure variables stored in another ~~one of the one or more~~ mining structure[[s]] created from the same data set.

5. (Currently Amended) The method of claim 3, wherein the values stored in one ~~of the one or more~~ mining structure's mining structure variables created from a data set are not equal to the values stored in another ~~of another one of the one or more~~ mining structure's mining structure variables created from the same data set.

6. (Currently Amended) The method of claim 3, wherein links between the one or more <u>of a plurality of</u> mining models and the mining structure from which each mining model was created are stored, ~~and whereby~~ <u>facilitating</u> changes in one or more mining structures ~~are~~ <u>being</u> simultaneously reflected in each of the one or more mining models created from each of the changed mining structures.

7. (Currently Amended) A method as recited in claim 3, further comprising:

evaluating two or more mining structures created using data from the same data set by comparing <u>to each other,</u> at least one mining model created from each of the two or more mining structures;

providing the results of the comparison.

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8. (Previously Presented) The method as recited in claim 1, further comprising providing two or more mining models created from the same mining structure for comparison.

9. (Previously Presented) The method as recited in claim 1, further comprising:

accepting a drill through query for specified data; and

providing said specified data.

10. (Currently Amended) A computer storage-medium having embodied thereon computer executable instructions which, when executed by a processor, perform a method comprising:

accessing one or more of a plurality of data sets, each data set storing data organized as cases, each case comprising:

a key value;

a value in one or more of a plurality of variables, whereby the values represent characteristics of a subject of the case and each type of the plurality of variables corresponds to pre-determined data types;

retrieving data from a data set of the plurality of data sets;

performing operations on a chosen one or more of a plurality of mining structures, wherein the operations comprise:

create, wherein the create operation sets up mining structures by creating one or more mining structures using data retrieved from the data set, wherein each

mining structure describes how the data will be modeled for data mining, and wherein the creating comprises:

defining one or more of a plurality of mining structure variables as the variables from the data structure that will be used in the mining structure; and

defining one or more of a plurality of acts of processing to be performed on the retrieved data, wherein the one or more acts of processing may be performed on a subset of the retrieved data;

process, wherein the process operation performs initial processing on the retrieved data from the data set for mining model creation by performing processing on the retrieved data, wherein processing occurs only on the subset of data determined necessary per the definitions in the mining structure;

clear, wherein the clear operation removes data from a processed mining structure;

drop, wherein the drop operation deletes each chosen mining structure;

update, wherein the update operation causes the mining structure to be reprocessed from the data set;

query, wherein the query operation returns the requested values from the mining structure;

storing results of operations performed on ~~processing~~ the data in the mining structure;

ascertaining the existence of one or more mining structures available for mining model creation; and

based on the mining structures, creating ~~one or more~~ a plurality of mining models, wherein each mining model is predictive of chosen characteristics based on the values obtained from mining structure variables, and the plurality of mining models includes a first mining model created from a first mining structure of the plurality of mining structures, and a second mining model, different from the first mining model, created from the first ~~wherein one of the one or more mining models created from a mining structure is not equal to another of the one or more mining models created from the same~~ mining structure;

providing results of the creation of the one or more mining models.

11. (Currently Amended) The computer storage medium as recited in claim 10 wherein one or more of the plurality of mining structures serve as first class objects in a database.

12. (Currently Amended) The computer storage medium as recited in claim 10 wherein one ~~of the one or more~~ mining structure[[s]] created from a data set is not equal to another ~~of the one or more~~ mining structure[[s]] created from the same data set.

13. (Currently Amended) A computer storage medium as recited in claim 12 wherein the cases represented by the mining structure variables stored in one ~~of the one or more~~ mining structure[[s]] created from a data set are not the same as the cases

represented by the mining structure variables stored in another ~~one of the one or more~~ mining structure[[s]] created from the same data set.

14. (Currently Amended) The computer storage medium as recited in claim 12 wherein the values stored in one ~~of the one or more~~ mining structure's mining structure variables created from a data set are not equal to the values stored in another ~~of another~~ ~~one of the one or more~~ mining structure's mining structure variables created from the same data set.

15. (Currently Amended) The computer storage medium as recited in claim 10 wherein links between the one or more <u>of a plurality of</u> mining models and the mining structure from which each mining model was created are stored, ~~and whereby~~ <u>facilitating</u> changes in one or more mining structures ~~are~~ <u>being</u> simultaneously reflected in each of the one or more mining models created from each of the changed mining structures.

16. (Currently Amended) The computer storage medium as recited in claim 12, wherein the method further comprises:

evaluating two or more mining structures created using data from the same data set by comparing <u>to each other,</u> at least one mining model created from each of the two or more mining structures;

providing the results of the comparison.

17. (Previously Presented) The computer storage medium as recited in claim 10, wherein the method further comprises providing two or more mining models created from the same mining structure for comparison.

18. (Previously Presented) The computer storage medium as recited in claim 10, wherein the method further comprises:

accepting a drill through query for specified data; and

providing said specified data.

19. (Currently Amended) A data mining method comprising:

accessing one or more of a plurality of data sets, each data set storing data organized as cases, each case comprising:

a key value;

a value in one or more of a plurality of variables, whereby the values represent characteristics of a subject of the case and each of the variable types correspond to specific data types;

retrieving data from a data set;

performing operations on a chosen one or more of a plurality of mining structures, wherein the operations comprise:

create, wherein the create operation sets up mining structures by creating one or more mining structures using data retrieved from the data set, wherein each mining structure describes how the data will be modeled for data mining, and wherein the creating comprises:

defining one or more of a plurality of mining structure variables as the variables from the data structure that will be used in the mining structure; and

defining one or more of a plurality of acts of processing to be performed on the retrieved data, wherein the one or more acts of processing may be performed on a subset of the retrieved data;

process, wherein the process operation performs initial processing on data set data for mining model creation by performing processing on the retrieved data, wherein processing occurs only on the subset of data determined necessary per the definitions in the mining structure;

clear, wherein the clear operation removes data from a processed mining structure;

drop, wherein the drop operation deletes each chosen mining structure;

update, wherein the update operation causes the mining structure to be reprocessed from the data set;

query, wherein the query operation returns the requested values from the mining structure;

storing results of operations performed on processing the data in the mining structure;

ascertaining the existence of one or more mining structures available for mining model creation;

creating one or more <u>of a plurality of</u> mining models, <u>wherein each mining model</u> <u>is predictive of chosen characteristics based on the values obtained from mining structure</u> <u>variables, and</u> wherein <u>when there is more than one mining model, one mining model</u> ~~one~~ ~~of the one or more mining models~~ created from a mining structure is not equal to another mining model ~~of the one or more mining models~~ created from the same mining structure, wherein when a mining model creation function detects that no mining structure utilizing data from ~~the~~ <u>a</u> desired data set is currently available, creating one or more mining models includes creating said mining structure;

providing results of the creation of the one or more mining models.

20. (Currently Amended) A method as recited in claim 19 wherein one or more <u>of the plurality of</u> mining structures serve as first class objects in a database.

21. (Currently Amended) The method as recited in claim 19 wherein one ~~of the~~ ~~one or more~~ mining structure[[s]] created from a data set is not equal to another ~~of the~~ ~~one or more~~ mining structure[[s]] created from the same data set.

22. (Currently Amended) The method as recited in claim 21 wherein the mining structure variables stored in one ~~of the one or more~~ mining structure[[s]] created from a data set are not the same as the mining structure variables stored in another ~~one of the one~~ ~~or more~~ mining structure[[s]] created from the same data set.

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23. (Currently Amended) The method as recited in claim 21 wherein the values stored in one ~~of the one or more~~ mining structure's mining structure variables created from a data set are not equal to the values stored in ~~another of another one of the one or more~~ mining structure's mining structure variables created from the same data set.

24. (Currently Amended) The method as recited in claim 19 wherein links between the one or more <u>of a plurality of</u> mining models and the mining structure from which each mining model was created are stored, ~~and whereby~~ <u>facilitating</u> changes in one or more mining structures ~~are~~ <u>being</u> simultaneously reflected in each of the one or more mining models created from each of the changed mining structures.

25. (Currently Amended) A computer storage medium having embodied thereon computer executable instructions which, when executed by a processor, perform a method comprising:

accessing one or more <u>of a plurality of</u> data sets, each data set storing data organized as cases, each case comprising:

a key value;

a value in one or more <u>of a plurality of</u> variables<u>, whereby the values represent characteristics of a subject of the case and each of the variable types correspond to specific data types</u>;

retrieving data from a data set;

<u>performing operations on a chosen one or more of a plurality of mining structures, wherein the operations comprise:</u>

create, wherein the create operation sets up mining structures by creating one or more mining structures using data retrieved from the data set, wherein each mining structure describes how the data will be modeled for data mining, and wherein the creating comprises:

defining one or more of a plurality of mining structure variables as the variables from the data structure that will be used in the mining structure; and

defining one or more of a plurality of acts of processing to be performed on the retrieved data, wherein the one or more acts of processing may be performed on a subset of the retrieved data;

process, wherein the process operation performs initial processing on data set data for mining model creation by performing processing on the retrieved data, wherein processing occurs only on the subset of data determined necessary per the definitions in the mining structure;

clear, wherein the clear operation removes data from a processed mining structure;

drop, wherein the drop operation deletes each chosen mining structure;

update, wherein the update operation causes the mining structure to be reprocessed from the data set;

query, wherein the query operation returns the requested values from the mining structure;

storing results of operations performed on processing the data in the mining structure;

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ascertaining the existence of one or more mining structures available for mining model creation;

creating one or more of a plurality of mining models, wherein each mining model is predictive of chosen characteristics based on the values obtained from mining structure variables, and wherein when there is more than one mining model, one mining model ~~one of the one or more mining models~~ created from a mining structure is not equal to another mining model ~~of the one or more mining models~~ created from the same mining structure, wherein when a mining model creation function detects that no mining structure utilizing data from the desired data set is currently available, creating one or more mining models includes creating said mining structure;

providing results of the creation of the one or more mining models.

26. (Currently Amended) A method as recited in claim 25 wherein one ~~of the one or more~~ mining structure[[s]] created from a data set is not equal to another ~~of the one or more~~ mining structure[[s]] created from the same data set.

27. (Currently Amended) The method of claim 26, wherein the mining structure variables stored in one ~~of the one or more~~ mining structure[[s]] created from a data set are not the same as the mining structure variables stored in another ~~one of the one or more~~ mining structure[[s]] created from the same data set.

28. (Currently Amended) The method of claim 26, wherein the values stored in one ~~of the one or more~~ mining structure's mining structure variables created from a data set are not equal to the values stored in another ~~of another one of the one or more~~ mining structure's mining structure variables created from the same data set.

29. (Currently Amended) The method as recited in claim 25 wherein links between the one or more of a plurality of mining models and the mining structure from which each mining model was created are stored, ~~and whereby~~ facilitating changes in one or more mining structures ~~are~~ being simultaneously reflected in each of the one or more mining models created from each of the changed mining structures.

30. (Currently Amended) A data mining system comprising:

a processing unit;

a system memory coupled to the processing unit;

one or more of a plurality of data sets, each data set storing data organized as cases, each case comprising:

a key value;

a value in one or more of a plurality of variables, whereby the values represent characteristics of a subject of the case and each of the variable types correspond to specific data types;

one or more of a plurality of mining structures created with data from a data set and available for mining model creation, each mining structure comprising:

a structure wherein information from the data set is processed, wherein processing occurs only on the data necessary per the definitions in the mining structure and includes discretizing per said definitions;

a container wherein processed information from the data set is stored <u>at least temporarily in system memory;</u>[[,]]

one or more <u>of a plurality of</u> mining models, each mining model being created from a mining structure wherein one ~~of the one or more~~ mining models created from a mining structure is not equal to another of the ~~one or more~~ mining models created from the same mining structure and whereby results of the data mining are provided.

31. (Currently Amended) A system as recited in claim 30 wherein one or more <u>of the plurality of</u> mining structures serve as first class objects in a database.

32. (Currently Amended) The system as recited in claim 30 wherein one ~~of the one or more~~ mining structure[[s]] created from a data set is not equal to another ~~of the one or more~~ mining structure[[s]]created from the same data set.

33. (Currently Amended) The system as recited in claim 32 wherein the mining structure variables stored in one ~~of the one or more~~ mining structure[[s]] created from a data set are not the same as the mining structure variables stored in another ~~one of the one or more~~ mining structure[[s]] created from the same data set.

34. (Currently Amended) The system as recited in claim 32 wherein the values stored in one ~~of the one or more~~ mining structure's mining structure variables created from a data set are not equal to the values stored in another ~~of another one of the one or more~~ mining structure's mining structure variables created from the same data set

35. (Currently Amended) The system as recited in claim 30 wherein links between the one or more of a plurality of mining models and the mining structure from which each mining model was created are stored and whereby facilitating changes in one or more mining structures are being simultaneously reflected in each of the one or more mining models created from each of the changed mining structures.

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